

## **6. HEAD, NECK, AND FACE INJURIES**

Lesson Topic: Head, neck, and face injuries

Instructional Material:

Instructional Reference:

1. Emergency Care and Transportation of the Sick and Wounded, Second Edition, American Academy of Orthopedic Surgeons, 1977
2. Emergency Care, Second Edition, Grant, Murray, 1978
3. First Aid for Soldiers, FM 21-11
4. Emergency War Surgery, NATO Handbook, 1975
5. Management of Trauma: Pitfalls and Practice, Walt and Wilson

Instructional Aids:

1. Visual Aid Panel

Terminal Objective:

1. While functioning as a Corpsman under simulated combat conditions with simulated head, face, or neck injuries, treat the casualties in accordance with Student Handout 0405.(1.3.9.)

Enabling Objective:

1. While functioning as a Corpsman and provided with a casualty with simulated head, face, neck wounds, treat the wounds in accordance with Student Handout 0405.
2. Given a list of treatments, match the treatments to the head, face, or neck injuries.
3. Given a list of symptoms, match the symptoms to the head, face, or neck injuries.

## **I. SKULL AND BRAIN INJURIES**

### **A. Classification of injuries**

1. Closed Injuries (without obvious external damage)
  - a. In closed injuries there may or may not be lacerations of the scalp, but the skull is intact and there is no opening to the brain.

- b. Injury to the brain itself may be far more extensive in a closed head injury because more of the injuring force is transmitted into the deeper areas of the brain and secondary damage due to bleeding or swelling is serious.

2. Open Injuries (with obvious external damage)

- a. Open head injuries usually combine lacerations of the scalp, fragmentation of the skull from fractures, and lacerations of the membranes that cover the brain.
- b. The brain may be relatively untouched, or it may be extensively bruised or lacerated.

B. Causes of skull and brain injuries

- 1. Bruising.
- 2. Pressure.
- 3. Laceration.

C. Signs of skull fracture

- 1. Deformity of the skull must be considered as the result of a fracture until proven otherwise.
- 2. Blood or clear fluid in the ears and nose is a sign of skull fracture.
- 3. Discoloration of the soft tissue under the eyes may be present.
- 4. Discoloration of the soft tissue behind the ear indicates basal skull fracture.

D. Signs of brain injury

- 1. Unequal pupils.
- 2. Unconsciousness.
- 3. Personality changes.
- 4. Paralysis.
- 5. Vomiting.
- 6. Convulsions.
- 7. Respiratory arrest.

#### E. Results of head injury

1. Blood from torn vessels causes pressure on brain tissue.
2. If skull base fractured, blood flows into upper air passages.
3. Blood flows from ears and nose and back into throat.
4. Gag reflex may be absent.
5. Cough reflex may be absent.
6. Tongue may obstruct throat of unconscious patient.
7. Blood may flow into lungs and stomach, causing vomiting and further airway obstruction.

#### F. Emergency treatment for skull and brain injuries

1. Maintain an open airway.
2. Check for and stabilize associated neck injuries. If patient is unconscious, he should be treated as if he actually has a broken neck.
3. Do not attempt to control drainage from the ears.
4. Do not remove impaled objects.
5. Cover open wounds securely enough to touch the injury site, so that it aids in the clotting process without pressing skull fragments or impaled objects inward.
6. Blood expanders should be given if there is excessive blood loss.
7. NPO
8. Evacuate casualty as carefully and expeditiously as conditions will permit.

## II. NECK INJURIES

#### A. Associated injuries - Injuries that may be associated with an injury to the neck .

1. Injury to the respiratory tract, larynx, and trachea.
2. Injuries in the alimentary tract, especially the esophagus.
3. Injuries of the thyroid gland, major vascular structures, and major nerves.

4. Cervical fractures.

**B. Signs of neck injuries**

1. Cuts and bruises are evident.
2. Deformity and bony protrusions in the neck might be seen and palpable.
3. Head fixed in an abnormal position.
4. Blood and air foaming from a wound in the neck indicate that a wound exists in the trachea or the neighboring pharynx with associated injury to an important blood vessel.

**C. Blunt neck trauma resulting in swelling and pain.**

**D. Treatments include the following**

1. Maintain an open airway; clear mouth of any objects.
2. Tracheotomy may be indicated.
3. Control hemorrhage; blood or I.V. transfusion as indicated.
4. Prone position if not contraindicated to prevent aspiration of blood into the lungs.
5. If there is a cervical spine injury, place in supine position with the neck supported with a traction splint or improvised material.
6. Evacuate ASAP.

**IV. FACIAL INJURIES**

**A. MAXILLOFACIAL AND MANDIBULAR INJURIES** - Injuries about the face, mouth, and jaw are generally serious because of the danger of hemorrhage due to the rich blood supply of the area and obstruction of the respiratory passages. These are divided into two groups.

1. Closed injury, fracture of the mandible.

**a. Causes**

- (1) Impact of blunt objects
- (2) Vehicle mishaps

b. Symptoms

- (1) Casualty cannot open mouth without pain.
- (2) Misaligned teeth.
- (3) Difficulty swallowing.
- (4) Hematoma.

c. Treatment

- (1) Maintain an open airway.
- (2) Apply modified Barton bandage.
- (3) Give no pain medication.
- (4) Evacuate.

2. Open injury, violent blood loss with possible fracture of the mandible.

a. Causes

- (1) Impact from high or low velocity missiles.
- (2) Vehicle mishaps.

b. Symptoms.

- (1) Extreme deformity of soft tissue.
- (2) Tooth or bone fragments in mouth.
- (3) Violent blood loss.
- (4) Unconscious or semi-conscious.
- (5) Asphyxia.

c. Treatment

- (1) Provide all life support measures necessary to save casualty's life.

B. Eye injuries - Unless the injury to the eye is clearly a minor one, the best advice is to

"refrain from interference". A minor eye injury improperly cared for can easily become a major eye injury.

1. Chemical burns of the eye - Initially first aid treatment is holding the face under running water with eyes open.
2. Heat burns of the eye - Cover eyes with loose moist dressing.
3. Light injuries of the eye - Cover eyes with dark patches.
4. Laceration involving the eye with impaled object.
  - a. Make thick dressing and cut hole in the center the size of the eye opening.
  - b. Pass dressing over impaled object.
  - c. Position crushed cup over dressing and bandage in place.
5. Laceration involving the eye.
  - a. If only the eyelid is lacerated, direct pressure or a pressure dressing will stop bleeding.
  - b. If the eyeball itself is lacerated, do not dress the eye tightly but only loosely to prevent infection.

## **V. REVIEW**

- A. Instructor should review highlights of head, neck, and face injuries and their treatments.
- B. Instructor should ask students if they have any questions. Questions should also be allowed during the lecture to clarify any misunderstandings.
- C. If students do not have any questions, the instructor should ask questions to insure that the lesson is understood.